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The JOURNAL OF EDUCATIONAL SOCIOLOGY

EDUCATION IN ACCIDENT PREVENTION

STEPHEN G. RICH, *Editor*

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THE JOURNAL OF EDUCATIONAL SOCIOLOGY

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EDITORIAL[1]

I

EDUCATION IN SAFETY OR SAFETY IN EDUCATION

Ever since the immediate aftermath of the World War gave occasion and opportunity for the introduction of accident prevention into education, a confusion has existed. The title of this discussion is intended to bring forward the existence of this confusion. No doubt the mere setting forth of the confusion and the clarification of the problems involved can serve as a starting point for new and effective educational work within this field.

It is not of course necessary or even desirable to find fault with the pioneers in St. Louis and elsewhere for not discovering this confusion. We as educators and sociologists know perfectly well that the development of sociological science and educational practice must have the existence of a confusion and the recognition of it as starting points.

During the first decade or so of accident-prevention work through educational means, the essential problem was to discover as many ways as possible, as many occasions as possible, and as

[1] The Editor of the JOURNAL has always pursued the policy of allowing complete freedom to the Issue Editor to present whatever point of view he desires, with no modification. The fact that the opinion of the Issue Editor in many cases is different from that of the Editor requires no special comment.—*The Editor*

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many devices as possible to link these two activities. A distinction between "education in accident prevention" and "accident prevention in education" would have been without significance at this stage. The situation has, however, developed vastly beyond the scope within which there is no occasion to differentiate. We are now at that stage at which the recognition of distinct types of activity will naturally aid in making it convenient and practicable to continue the development of educational safety work.

We may even consider accident prevention as one of the major objectives of education. My own reaction has been consistently to consider it rather as one of the first subdivisions—and in many respects the most important and extensive thereof—under the generally accepted and agreed-upon educational objective of *health* or *maintenance of health*. I confess an inability to draw a real distinction between the high-school senior who allows himself to be invaded by bacteria and laid up and the one who indulges in sand-lot football outside of school hours and is laid up with a broken tibia.

We need not, however, quarrel as to the exact place of safety in any hierarchy of educational objectives. Its importance is literally so obvious that it seems incredible that any need to make the teaching profession more conscious of that necessity should have to be undertaken.

When we speak of "education in accident prevention," we are really fundamentally thinking of educational work in which the creation of safety habits, safety attitudes, and along with them safety knowledge is a conscious and deliberate educational purpose.

In contrast to this is "accident prevention in education." By this we fundamentally mean the sort of activity which throughout the various subjects of instruction uses accident-prevention content. It will be obvious to the practical educator that in many cases this is exceedingly effective. Likewise, it will be just as obvious to him that two possibilities of negative results must be considered. The first of these possibilities lies in the disposition of pupils perhaps to be-

come a wee bit sated and even disgusted with the dragging in of safety content literally by one hair of its head or one toenail into any possible subject. With all due respect to various pioneers, we may really doubt whether the so-called safety problems in arithmetic which were wangled into some junior-high-school texts a dozen years or more ago were not so conspicuously artificial and so far from the possible interests of the pupils as to produce a negative attitude.

Let us not, however, get the idea that accident prevention in education is inherently useless. Those of us who have ever taught shopwork or chemistry or domestic science know that safety content is at many points a logical and indeed a necessary portion of the course of study. Many years of conversing with science teachers when off guard indicated to me that only the cast-iron rigid requirements set by college entrance examinations prevented widespread use of certain safety material in science courses.

It is my belief as editor of this number of the JOURNAL that if I can convince the readers that there are two distinct and separate portions of educational activity involving safety, I shall have rendered them able to direct and develop this phase of education to greater advantage than has hitherto been possible.

II

TECHNIQUES

In an article published elsewhere in this number, Dean Payne has referred repeatedly to the comparatively disappointing results of safety education up to now.

It would not be fair to let this opportunity pass without urging that there is a great lack of information as to effective techniques in safety education of all sorts. We literally and actually do not have any positive and consistent information as to how to do safety education properly.

Little as our knowledge is of which particular items of safety education most urgently need to be taught, still less do we have any definite and elaborated techniques for teaching them. At the risk of being thought old-fashioned, I venture to state that a scheme of method—or rather several schemes of method—as definite as the famous Five Formal Steps of Herbart should be developed. For each type of desired use a definite effective procedure can and should be discovered. It is too early to hope for discovering the most effective procedure possible; but the harassed teacher in the classroom really does need a cookbook recipe to aid her in safety teaching.

One recipe should give us safety attitudes; another should aim at safety habits; and an entirely different recipe is clearly indicated if we are going to produce safety information as the major product of the lesson.

The next step beyond this is the development of alternative techniques and their evaluation in terms of effectiveness to evaluate them properly. Experimental didactics after the most rigid manner of Lay and Meumann are needed. The experimental methods of these men will have to be used if we are to find out which of several effective recipes works best.

This type of research is not congenial to us Americans but until we buckle down to at least some measure of it we shall continue to lament the ineffectiveness of our safety education.

In the dozen years since I last taught a class or had a part in the administration of a school, I have not forgotten the problems which face the harassed teacher with a large class of more or less reluctant pupils to teach. Eight years in supplying textbooks, workbooks, and the like have taught me that the everyday honest, hard-working teacher, really desirous of doing the best possible for a roomful of children, needs every possible aid; that, recruited as she is from the entire cross section of the community, she cannot be expected to show too much ingenuity and resourcefulness in developing her own teaching procedures. In all sympathy with the needs of the

hundreds of thousands of devoted teachers, I ask for the development of precedures which these honorable and unappreciated people may use in safety education.

The type situation is not the teacher in the advanced school, working under favorable conditions. Far more typical is the situation in which so many teachers find themselves: classes too large; funds for equipment and supplies meager; administration unaware of the problems; and in many cases even actual hostility to anything but the traditional "Three R's" from parents.

I put in this plea for making the possibilities of safety education available to even the teacher working under the most difficult conditions. For her sake let us reduce it to a set of techniques and even put it on a "cookbook basis."

III

ARE WE IMPLYING TRANSFER?

One thing that plagues some of us in considering most reports on the results of education in accident prevention is an undercurrent which we seem to detect and which we do not like. This undercurrent is a sort of tacit implication that the results of training readily spread and are readily transferred.

It seems to be taken for granted that education in street safety will produce a safety attitude that may effect activity in the home or the school or elsewhere. It would be hard to quote a definite and specific statement; but even if there is no more than a vague and undefined attitude present among educators, it certainly will have its effect in limiting or directing the thinking.

I speak, not as an impartial observer, but as one with very definite prejudices. I am frankly prejudiced in favor of the idea that accident prevention is a legitimate and important educational purpose. I am openly prejudiced in believing that Edward L. Thorndike has definitely shown that transfer or spread of training is so small

in extent and so erratic in occurrence that we cannot count on it in any educational situation.

The result of these two prejudices is to make me desire to criticize current trends in the interest of attaining greater effectiveness. I literally mean that there is far greater need of specific education in the specific risks and the methods of avoiding them.

We are perhaps unduly likely to believe that the knowledge of electricity acquired in high-school science will be sufficient to caution pupils against the "silent hazard." In view of the incidence of accidents in the home, however, we need to consider that specific training is necessary.

Out on the highway, it may seem self-evident that an accident-conscious driver will avoid all causes of collision or other trouble—but yet something more is needed. The modern motor car, with its tremendous acceleration, easy speed surpassing that which the driver can readily control, and limitations on deceleration and steering set by the physics of the situation, has produced a new and different crop of potential and even actual danger situations.

If we are going to rely upon the "safety attitude," and such safety schools and knowledge as has previously been learned, to cope with this situation, we are leaning upon a thin reed indeed. The plain truth of the matter is that we have a situation with enough new elements to make transfer into it exceedingly unlikely and most infreqent.

These are two of the simpler and more obvious cases in which we are hampering our educational procedure and failing to accomplish our purposes because of the recrudescence of the incorrect psychological idea that transfer of training exists.

With all due respect for whatever work may have been done by Charles H. Judd and his disciples, the fact remains that even they have at best shown that spread or transfer of training is a possibility. They have shown that under conditions of high intelligence in the pupil, conscious effort on the part of the pupil and teacher to get

spread of training, and favorable content of instruction, a limited amount of spread fairly often takes place. This cannot be counted on for education in accident prevention.

The purpose of this agitational article, therefore, is to urge those interested in education in accident prevention to take the strict Thorndike point of view as a fundamental of psychology; to work from the Thorndike point of view and insist upon specific instruction to meet each specific accident situation of any importance.

IV

CONSUMER EDUCATION AGAINST ACCIDENTS

The field of education in safety would not be covered fully or properly if we did not add to the fact-finding, school administration, psychological, didactic, and industrial point of view at least a few words on the education of the consumer for safety.

Consciousness of hazards is being spread steadily but slowly by the bulletins on buying circulated by such organizations as Consumers Research and the Consumers Union. For years the former has been making a strong point in its lists of recommended articles of safety or the absence thereof as a basis for approving or not approving any article as a good purchase. This has been seen particularly in a few specific directions, which should be mentioned.

Electric hazards, especially shock hazards, have been duly given prominence in the ratings of household equipment. The need for instruction leading toward a safety attitude will be quite evident to any educator who has seen the almost universal existence of such danger as reported by these agencies.

Causes possibly leading to accident in the household use of dry-cleaning preparations such as are commonly sold at retail have been given good publicity.

In rating the new automobiles each year these agencies have gone

far in pointing out structural and operating features which may make certain cars risky in the hands of even competent and safety-minded drivers.

Here are just a few of many cases in which consumer education is being carried on with a definite safety content. Indeed, without disparagement of the fine and varied efforts reported to this point, in this number of this journal, it would seem to an observant outsider that the question of *safety in the household* has received far too little attention up to now. The main effort seems to be directed toward safety in the streets and on the highways. No doubt the need is great; but no observant person can doubt that there is great need for extension into another field. One often reads of broken ribs or arms from falls on slippery floors or in slippery bathtubs in the home. One hears reports of painful accidents to children playing with sharp kitchen utensils.

The work now being done toward consumer education in safety is but a shadow of a beginning, even though better than a hundred thousand individuals or families are known to have been reached by these organizations. Unfortunately, most of these are families that other means of safety education also reach. Those who most need this education are left in the outer darkness as yet.

STEPHEN G. RICH

THE APPLICATION OF PSYCHOLOGICAL METHODS TO SAFETY EDUCATION

SADIE M. SHELLOW

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Four thousand school children were killed by automobiles in the United States last year. Behind the wheel of every automobile responsible for these deaths was a human being. Except in those rare cases where some unusual, unforeseeable event occurred, most of these deaths could have been prevented. When safety devices on automobiles have been perfected, roads properly graded, signs worked out to the last nicety of effectiveness, traffic ordinances standardized all over the country, and enforcement agencies freed from political influence, there still remains the behavior of the human driver.

One of the three famous "E's" in the safety program (engineering, enforcement, and education), the mightiest—education—is only beginning to be stressed. Perhaps the reason that the methods of educating for safety have developed so slowly is because they have been, until recently, the concern of engineers rather than educators. The emphasis has been upon producing attention-getting devices, without much concern with how effective the reaction was from the point of view of changing or influencing behavior.

The earliest attempts were by the use of posters—still a popular method. Strong colors and strong language were believed to make for safety. Here are a few slogans at a recent safety display:

Hurry Is the Greatest Driving Hazard
Bring Them Back Alive (picture of children in a car)
Must Others Be Careful For You
Drive Safely

Any one who has dealt with accidents and their causes at first hand and has tried to evaluate safety methods will realize that such

general statements do little to prevent accidents. Safe driving depends upon *building specific safe habits* of action, attitude, and thought. These habits are not built up through generalized warning, but through specific instruction and attention. At any safety conference, note the difference in attention when the speaker talks about driving safely and when he starts to describe how a skillful driver handles his car going around a curve. If posters are to be used in safety education, they should employ known psychological principles and should tell specifically how to perform a particular act safely.

Recently, motion pictures have been utilized to teach safety. And here the principles of psychology are being applied to a larger extent; but even here, horror, smash-ups, accidents greatly outweigh demonstrations of specific habits of safety which should be cultivated. *Just how to transfer a feeling of horror to a preventive safe act is a gap thus far neglected.*

Drivers' schools are a much nearer approach to effective education. They reach only a small percentage of drivers and as yet are purely voluntary in most cases. No employer would permit a green, untrained operator to take charge of a complicated and expensive production machine without assuring himself that the new employee has learned how to operate it safely and efficiently. Yet many States allow any one who purchases a car to operate on the crowded streets without preliminary instruction or a check-up on his skill in driving. The drivers' license requirements in even the most advanced States are tragically inadequate.

Efforts at making more stringent license requirements which include tests of reaction time, coördination, concentration of attention, etc., are gaining favor. Such tests have a distinct value; but from a practical point of view they would be difficult to administer if required for all licensed drivers. Unless the tests were of sufficient length to assure a fair sample of normal behavior and to allow for a complete adjustment of the individual to the test situation, they

would be obviously unfair. Furthermore, no such test has even been satisfactorily checked against sufficient reliable objective criteria to warrant rejection of an applicant on the basis of the test alone. They can, however, be used with utmost effectiveness:

1. To discover native defects and point out methods of compensation
2. To analyze causative factors in the case of repeaters
3. To educate the public in regard to individual differences in the various abilities necessary for good driving

This latter use is the most important. Just as most people believe that they can innately "size up the other fellow," so most drivers believe that they are good drivers. To demonstrate a slow reaction time or limited width of vision would indisputably point to a need for extra care in driving.

The human factor in accident prevention must be approached constructively if it is to bring results. Just as psychological principles have been applied to tests, so they can be applied to educating the public for safety. There are certain traditional habits and attitudes that have been developed through education and social pressure. Certain types of courtesy, for example, are almost universal. Those who do not observe them are frowned upon. People like to be thought courteous in certain specific kinds of situations. If people could be educated to *want* to be considered *safe drivers* rather than clever ones, a real step forward would be taken in the direction of accident prevention. In order to plan a method of reëducation of attitude toward driving, it is necessary to examine the present point of view and understand how it came about.

When automobiles first came into use they were a luxury. Those who owned and drove them looked upon them as much as a high-class toy. Unfortunately, the toy psychology has carried over. Many people still enjoy driving a car much as a small boy enjoys running a toy electric train. The game is to see how fast one can go, whether or not one can beat the red light, pass the next car before another appears in the opposite direction, park overtime without being

caught, or talk the officer out of a ticket. These are the accomplishments about which many drivers boast to their friends.

But the automobile is no longer a toy. It is a necessary and useful tool. It is no longer the rare possession of the wealthy, but provides, rather, the ordinary means of transportation for the great mass of the population. It is the method by which we go to and from work. It is a daily detail in the serious business of life. And the driver's attitude must be changed from that of play to that of pride in skillful and safe handling.

Now how can one go about changing such an attitude? As in all types of education, the habits of safe driving and road courtesy must be developed by the use of some fundamental motivation. Social approval must be shifted from admiration for the driver who boasts of his narrow escapes to distinct disapproval of those who take chances. A program for such reëducation must be carefully planned. Methods for evaluating psychological techniques used must be devised, just as they are for other experiments in which human behavior is involved.

It is one thing to *talk* safety and quite another *to develop automatic safe habits of driving and thinking*. What is needed is not more discussions of accident prevention in general and graphs showing increasing fatalities, but a greater sense of *individual responsibility*. Obviously, it is impossible to deal in detail with such a program in a brief paper, but a few suggestions may point the way and illustrate the method.

Safety campaigns have confined themselves to posters, motion pictures, lectures, and occasional driving schools voluntarily attended. There is a place for a new kind of campaign. Suppose such organizations as the Rotary, Kiwanis, Lions, and other so-called service luncheon clubs began to take safety seriously—not as a good thing for the other fellow, but as a vital way in which each member could make a contribution to his community through his own example and his attitude toward others.[1] Suppose each club began a

[1] *See* footnote 1 on page 13.

safety unit, and set out to make a record of safe driving for every member of the club, and devoted special meetings to the principles of safe driving, right turns, passing other cars, speed limits, double clutching, anticipating the action of others (with specific examples, such as pulling out from the curb, etc.). Slogans could be put on the cars. The reckless driver would become a matter of censure and scorn rather than of admiration. Such groups of well-known citizens could do much to mold the opinion of the community.

Commercial organizations employing truck drivers should have regular safety conferences for analyzing accidents in detail, testing and following up their drivers, and they should maintain an instructor whose business it is to correct improper driving habits. Prizes could be offered by the clubs or the city to organizations whose members made unusual safety records. Illustrated lectures and motion pictures which demonstrate specific safe habits should be presented constantly to the public in theaters, schools, and clubs. Agencies selling cars could coöperate by grading drivers and instructing those persons who buy cars, whether they be new or old drivers, in certain fundamental safe habits. If sufficient newspaper publicity were focused upon analyses of accidents in terms of human failures, many of our communities could be made safety conscious. With the coöperation of the editors, the public could be given a daily lesson in safe driving; this, from the reporting point of view, would be a constructive balance to the usual lurid tales of accidents.

There was a city in the far West which at one time took great pride in the cleanliness of its streets. By constant publicity and instruction in the public schools and elsewhere, the citizens were made to regard throwing a piece of paper carelessly on the street as a breach of loyalty to the ideals of cleanliness of that city. The careless driver could readily be termed as disloyal in a safety-conscious community. The tying up of the desire for public approval

[1] (*Editorial Note:* As I have just finished a year as president of a Rotary Club, I can assure readers as well as Dr. Shellow that we are in so many community services and have so many calls on our time and effort that we must decline to take on even one more at any time no matter how apparently urgent.—*S.G.R.*)

and the emotion of loyalty to the idea of safety would furnish an adequate motivation for the cultivation and development of safe habits.

The richest field for education is, of course, among the school children. They are the drivers of tomorrow. But even as children, they, by their opinion and attitude, affect the action of their elders. The child who watches the highway signs and points out to his father, "The sign says thirty miles per hour and you are going forty" reminds his father that he should not be setting an example of law infraction.

The importance of making children "safety conscious" has been almost universally recognized. Each community has developed its own method for bringing safety education into the schools. Safety cadets have been selected to assist other children at crossings. Motion pictures showing traffic hazards, proper ways of crossing the street, and possible accident situations are being used. Lectures by specialists in the field and talks by teachers and principals—all have made their contributions. While preparing this material, most educators and others interested in promoting safety have recognized the importance of tying up the intellectual appeal to some kind of an emotional drive. The establishment of any habit must be based upon an emotional drive. The establishment of any habit must be based upon some fundamental need or motivation which is inherent in the individual. In safety education, much stress has been laid upon *fear*. Pictures showing gruesome accidents have been used to attract the attention of the children with the hope that they would breed caution. In children, as with adults, in order that education may be effective, there must be as strong a drive to do the right thing as there is fear of doing the wrong thing

To what natural motivation, then, can safety instruction be tied in order that children may be stimulated to *want* to be careful and to take a pride in their carefulness? One of the strongest emotions in children when they are members of a group is *loyalty*. If safety

education can somehow be tied up to the spirit of loyalty, this emotional drive will do much to instill attitudes and habits that will promote safe behavior.

Just as the boy can be encouraged to keep himself in good physical condition so that he may play on a football team that has the opportunity of winning glory for the school, so can he be interested in becoming a member of a school team, composed of all the children in the school, engaged in a contest among schools to go through the year without a single accident to any child. Safety contests between the schools may be utilized to instill a pride in safe habits. At the end of the year, a pennant presented by the police department of the community, the safety commission, or the board of education, or all three acting jointly might serve as a reward for the efforts made by the children.

The rules of the contest might include accidents to school children occurring not only in the vicinity of the school but anywhere in the community. The idea that a child attending, say the "Bancroft High School," is a safe child on all thoroughfares could readily be impressed.

The training for the contest might include the making of safety posters in the art period illustrating proper ways of crossing a street, riding a bicycle, looking out for traffic, and other common situations that the child must meet each day; lectures by experts, motion pictures, talks by teachers and principals, police officers, safety experts, and weekly safety slogans illustrated by posters displayed in each school.

Each child could be stimulated to feel responsible for every other child in the school. For example, John would not permit Bill to cross in the middle of the street because he would be breaking the safety rules of the school. The corner traffic officer could also be helpful in encouraging and helping the children in their attempt to win the pennant. When he saw a child about to cut in front of a car, he would remind him of the contest.

At the end of the school year pennants could be presented impressively to those schools with perfect records and credit given to all the children of the school.

The Lane Technical High School in Chicago has recently offered a course in driving. This is making a frontal attack upon the problem of accident prevention. If all young people could build safe habits at the *beginning* of their driving experience, reëducation during adulthood would not be necessary. It is far more difficult to teach the careless driver to be careful than to start the new driver off on the correct path. Industrial experience in the prevention of accidents has pointed to the rule that the way to prevent accidents is to teach the beginner safe habits as he learns to operate any machine, and to supervise him carefully until those habits become automatic. If along with the training in the driver's course, ideals of carefulness, pride in skill, and respect for the law are stressed, we will find our accident fatalities dropping in proportion to the number of young people so trained.

In communities where high schools cannot undertake such courses, a field on the outskirts could be designated as a training field and the local police department or some other public agency could offer such a course with practice, instruction, and supervision. A certificate showing that the young person has passed the "safe-driver" examination could be utilized to inspire students with a desire to operate well, and serve as a badge of accomplishment when attained.

In some communities there has been established the custom of having a "Safety Week" each year. The thought underlying this device was to focus the attention intensively for one week at least upon various safety matters, hoping that the educational drive during "Safety Week" would carry over for the rest of the year. It was patterned after "Fire Prevention Week." That is an entirely different matter, for during this week extra caution is taken to remove rubbish, and to call attention to specific fire hazards and have these

matters attended to immediately. It does not mean that one neglects fire prevention for the rest of the year, but the intensive campaign does serve to correct and to remove certain specific hazards which may have otherwise been overlooked. Some communities have repudiated the idea of "Safety Week" with the argument that "every week is safety week." There is a psychological value to intensive campaigns and there are also some disadvantages. After the week is over, attention may be relaxed to such an extent that even more accidents occur. And, again, so long as the campaign is in generalized terms, little good can be carried over. There is a method in which the advantage believed to be gained through a short intensive campaign can be made to work. If the whole year were devoted to a safety campaign and each month featured a specific, common, unsafe habit, and all were urged to concentrate during that month upon a particular driving practice, new and improved habits could be formed. This was found to work out very well with street-car accidents. A campaign to eliminate "alighting and boarding accidents" over a period of a month reduced them for years, so that the peak was never again reached. As each type of accident was discussed with the motormen and a monthly campaign inaugurated to call attention to the cause of methods of prevention, the curve of incidence of that particular accident dropped.

If an entire community could concentrate next month on avoiding accidents at intersections, let us say, by slowing down before each intersection where traffic is customarily heavy, by taking extra care with left and right turns; if every driver in the community would be conscious of that one source of accidents for a month, the habit of care in approaching intersections could be publicized with daily charts and graphs illustrating decreases due to the current campaign and thus increase the interest of the total community in safety. The same publicity could be carried into the schools, stressing careful crossing of streets, crossing with the traffic, looking both ways before crossing, etc., until this one source of accidents

would be uppermost in the consciousness of the members in the community. There is nothing but the application of another psychological principle; viz., that habits are built up by constant exercise and repetition, and that one cannot learn too many things at once.

The approach to safety education which has been briefly sketched in the preceding pages is not in any way meant to supersede those methods already in use, but rather to supplement them. Much attention will always need to be given to the engineering features of safety; even here some hints from experimental psychology might prove helpful. (For example, studies concerning the effectiveness of various colors and intensities of light.) The wording of warning signs, the distance ahead of the hazard where such signs should be placed, size and shape of letters, and many other matters which depend upon the reaction of a person to a stimulus, require psychological experimentation.

Enforcement will be an essential part of every safety program, for we learn both through punishment and reward, and those who cannot be inspired to respond to a psychology of pride in safety will need to be restrained from recklessness through fear of drastic and rigid enforcement of the laws.

But far greater progress will be made in the field of education when those who are responsible for safety education apply the psychological principles which have been demonstrated to work in other fields of learning. The use of constructive suggestions, the tying up of the desire for safety with a fundamental motivation, the stress on the perfection of specific safety habits, and the constant and continuous hammering away at accident causes, together with proper methods of preventing them in specific accident situations —all must be utilized to promote safety.

CONTEMPORARY ACCIDENTS AND THEIR NONREDUCTION

E. GEORGE PAYNE

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For the past generation the American public and organizations engaged in the study of accidents and in efforts to bring about their reduction have been concerned with the increasing scope and severity of accidents and their vital significance as an economic problem. The social and economic seriousness of the accident situation is indicated by the fact that in 1936 approximately 110,000 persons were killed and the cost of these deaths was $3,750,000,000. The number killed and the cost were higher than in any previous year in the history of the United States. About 400,000 persons were disabled permanently, and 10,300,000 temporarily. Among the fatal accidents 39,000 occurred in the homes of the country; 18,000 in industry; motor vehicles accounted for 38,500; and 15,500 were miscellaneous public accidents. Furthermore, the accidents caused by falls amounted to 25,000 and accidents to children under fifteen years of age reached a total of 15,500—an increase from 14,200 for the year 1935. The following table indicates further just what has taken place in the increase and spread of accidents since 1913.

ACCIDENT FACTS—1935

Year	*Total*	*Motor Vehicles*	*Falls*	*Burns*	*Drowning*	*Railroad Accidents*	*Fire-arms*	*Poison Gas*	*All Others*
1913	82,460	4,227	14,881	8,983	9,875	12,342	2,400	3,467	26,285
1918	85,149	10,723	13,156	10,255	7,148	10,495	2,693	4,247	26,432
1923	84,528	18,394	14,114	9,063	6,814	7,026	2,940	2,712	23,465
1928	95,186	27,996	16,911	8,482	8,483	4,990	2,979	2,718	22,627
1933	91,087	31,363	21,746	7,341	7,465	3,973	3,026	1,668	14,505

This table indicates a constant increase in the number of accidents during the period covered. The decrease in 1933 was the result of the depression, unemployment, and the decline in the number of automobiles in use. There has been a marked increase in deaths from automobiles and falls, with a marked decrease in deaths from industrial mishaps, railway accidents, and burns. Some

progress has been made in reductions in certain groups, while others have become more and more severe. It is doubtful whether the accident-prevention agencies have affected the situation favorably at all. The decrease and increase appear to be natural accompaniments of social change.

This statistical story and its interpretation are not only tragic and indicative of social incompetence to deal with a major problem. They also require some explanation; they require an understanding of the causes of this terrible picture. For an explanation we have but to look at the history of mechanical invention and its effect upon the major aspects of our industrial, commercial, and home life in this period of development. The method of industrial production has been transformed by the introduction of new machinery and labor-saving devices of all kinds. Homes have become miniature production units with every conceivable gadget designed to lighten the burdens of the housewife. Finally, transportation and communication have undergone complete revolution, providing such means as the automobile and the radio for the comfort and enjoyment of the people. Verily, there has been a revolution in the number and kinds of mechanical instruments that have been provided for the comforts, for the relief from burdens, and for the enjoyment of mankind.

These mechanical devices, however, have brought with them death and destruction. Why? To any one who has viewed this process objectively the answer is obvious. We have not learned to use these tools of progress without disaster to ourselves. The instruments of progress, of ease, and of comfort have therefore turned out to be the deepest concern of our current civilization. The fact that one of these products of invention and industry, the automobile, should account for approximately 38,500 deaths and more than one million injuries in the year 1936, an increase from four deaths in 1907, speaks for itself and makes our so-called civilization a mockery.

The fundamental explanation of this situation is quite simple. We have centered our attention primarily upon the production of more and more of the gadgets to be used and have been concerned comparatively less and less with the adequate use of the instruments without disaster to ourselves. Our behavior has not correspondingly changed with these mechanical instruments of social progress. There has developed what the sociologists have chosen to call the "social lag"; that is, our intelligence and practices in the use of these instruments have not kept pace with their development. As just indicated, we have been little concerned with the details of their adequate use.

In order that accusations of ignorance might be avoided, let me say that I am fully aware of the work of the National Safety Council, the various local safety councils, and the numerous public officials who continued through these years to hold congresses and conferences, to publicize statistics, to pass ordinances, and to promote educational programs designed to indoctrinate the youth and the public in the ways of safety. The relative futility of these efforts in the face of constantly mounting accidents and hazards lies mainly, not in the lack of concern about the accident problem, but in the lack of an intelligent attack upon the problem of accidents and the methods of their prevention. The leadership of the safety movement is now and has been for a long time in the hands of an agency which has the appearance of a professional society or public-service agency. It is actually more nearly a trade association primarily interested in saving money for its members and incidentally in saving human lives.

This rather sweeping statement and implied indictment of the forces concerned with the prevention of accidents requires an explanation on my part of the manner in which these efforts have failed; and at least a suggestion of a constructive program looking to more effective efforts in the direction of accident reduction. The limitation of space makes possible the barest outline, but it may be

a beginning and can be followed later with more adequate details.

Whatever may be presented here of a constructive nature requires a review of a bit of history. The World War indicated many things of significance for the people of the United States, but one fact that stood in the forefront was the importance of man power. We began, following the war, to be feverishly active about the loss of human material from avoidable ill health and accidents. We also became aware of the fact that improvement in these conditions was inherent primarily in the behavior of people. We saw pretty clearly that if health was to be improved and accidents prevented, results depended upon changes in behavior of people. This was a philosophy which educators were ready generally to accept, and that implies that education in the largest sense is the only effective means of changing behavior. Educators were thus faced with the necessity of presenting an educational program that would be effective in the reduction of accidents. Such a program[1] was worked out experimentally in line with the general educational philosophy of the time and was generally accepted by educators. This program still offers the guiding principles for the educational effort in accident prevention.

In the light of these facts the question immediately arises as to the reason for the failure of a program of education that was adequate from the point of view of a philosophy of education and accepted by educators. Is there something wrong with the program or is the fault with the emphasis placed in its operation?

The answer is obviously with the latter. Much money has been spent in the elaboration of the program in so far as the techniques of instruction are concerned; but here the promotion work has been in the hands of those much less familiar with the schools and the work of education than the educators themselves. This money might have been spent in the accumulation of data indispensable to the operation of the program itself—data which teachers were not

[1] E. George Payne, *Education in Accident Prevention* (Chicago: Lyons and Carnahan, 1919).

in a position to get and were not equipped by training to acquire. The emphasis, in a word, has been placed upon the technique of instruction by those less familiar with educational theory and practice than the teachers themselves. The work that such an organization could legitimately do has been left undone, with the result that the educational program as operated has had little effect on the reduction of accidents. There is at the present very little if any altruistic or even wholly objective leadership in the movement for accident prevention in the United States. There are obviously some exceptions to this statement but in general it is correct.

Let us then examine this problem in the light of the foregoing explanation, to discover a more adequate approach to the problem of education in accident prevention, and to select the major cause of accidents. Let us take the automobile as an example. Our first problem is to determine the specific causes of accidents from the automobile, for we have already pointed out the general cause, inherent in the social lag. It is moreover obvious that we will find the causes not in the automobile as a hazard, but in the behavior of the driver on the one hand and the nondriving public, both children and adults, on the other. Furthermore, clearly our problem is to change the conduct of the driver and the nondriving public with reference to this hazard if we are to make progress in the elimination of accidents. There are two rather simple problems involved: simple in diagnosis and difficult in cure. The first relates to the selection and training of those who are to assume responsibility for driving automobiles. The second is the education of the youth and adult public with reference to automobiles as a public hazard.

It should be noted that there are about 27,000,000 automobiles owned and operated in the United States and there are perhaps 50,000,000 operators of these cars. Roughly estimating the number of accidents at more than one million in the year 1936, there is then at least one accident for each fifty drivers in this year. The problem, therefore, is to discover who these drivers are and what in

their make-up is responsible for the accident. We know next to nothing about the persons who are involved in accidents.

The method of selecting the operators of automobiles is certainly in large measure responsible for the accidents. In New York State, where perhaps as rigid an examination prevails as anywhere, the person seeking a license drives the car a few blocks, starts it, stops it, turns it around, is given a superficial color-blindness and vision test, and has thus demonstrated his fitness to receive his license. In some States no examination is required. All these operators, with no tested equipment for knowledge, attitudes, or practice under normal conditions for handling a car, are then turned loose to slaughter the public.

Nothing has been done to discover what the experience of these drivers is afterwards. If the data relating to all the accidents were gathered and studied, we could no doubt learn from them how to select operators of cars that would avoid accidents. Such a scientific procedure would require money spent in a nonspectacular activity; but this does not seem to appeal to those agencies engaged in accident prevention. Perhaps the reason is that these organizations thrive upon sensational publicity, not upon scientific study and results.

A recent program promoted by the National Bureau of Casualty and Surety Underwriters illustrates the point of view presented here; namely, the proposal to train high-school students in safe driving. This is the latest proposal and one that has received its due amount of publicity. Even if a program of safe driving could be carried out in all the high schools of America (and they cannot and will not), we would deal only with a limited number of the future drivers, and, so far as we know, those who would drive safely anyway. The program is an interesting publicity stunt, but bears no essential relation to the accident situation in the United States in the year 1937. Moreover, it will likely retard the development of a program that would get at the roots of the accident situation.

The point of view emphasized here may be made clear by reference to any scientific procedure, as opposed to the guess procedures in vogue. We have illustrated the situation by safe-driving programs in the high schools.

The elimination of accidents is not unlike the elimination of disease; we have in the example of preventive medicine the cue for the correct procedure in the prevention of accidents. At the end of the nineteenth century we were faced with many devastating diseases which took a high toll of human life, tuberculosis, typhoid, malaria, children's diseases, and the like. The application of the scientific techniques to the study of the causes of these diseases produced results. When the causes were once known, we proceeded deliberately, slowly to be sure, but effectively, to bring the diseases under control, with the result that many of them are almost banished. Such an intelligent and statesmanlike procedure in the study of data about the operators of automobiles would certainly bring a like result. There seems to be no hope that the present agencies promoting accident programs will proceed with any such statesmanlike intelligence and vision; for they are essentially propaganda and not scientific organizations.

Note here that a start has been made in a scientific approach to the solution of this problem, not by the major accident-preventing agencies, but by the United States Bureau of Public Roads. This Bureau is undertaking a study of 25,000 drivers who have had accident records in the past six years. Through physical and psychological tests of drivers, the Bureau hopes to establish standards by which safe and unsafe operators can be identified by State authorities issuing driving permits. Congress has appropriated $75,000 for the study. This is a beginning in the right direction; but a number of years will pass before much can be done. If private agencies had begun years ago to devote some of their wasted funds to such a study, the problem of the driver would have already been solved.

The second problem indicated here is that of the public, both

child and adult, and its responsibility for the accident situation. Here again we have a school program which, in so far as the school children themselves and their instruction are concerned, is fairly adequate. The weakness of the program lies in the fact that except in the beginning, both in conception and practice, it has not been concerned with the adult public at all. Any adequate program of education must be fundamentally concerned with *both* children and adults. Leading educators have long known and pointed out that effective changes in the behavior of children can only be made when corresponding changes are made in the practices of the adult population at the same time. If adults continue their behavior, the social pressure in the community outweighs any efforts that the schools may make in their attempts to change the practices of children in schools.

This weakness of the school program is fundamental, but no more so than another involving the basis of the instruction. We have gone on refining the technique of instruction. Safety plays, safety materials, types of school organizations, etc., etc., have been worked out *ad nauseam,* without ever finding out the specific causes of accidents to the public. This is so in spite of the fact that the original school program made this the major point of attack. Some of this work has been done, but not by those organizations promoting accident-prevention programs; and they have made little or no use of what has been done.

In the original program of accident prevention through instruction, it was pointed out not only that local studies of the causes of accidents were necessary, but that the nature of these causes should be made available weekly to every teacher in the community. Thus the teacher might vitalize her instruction by emphasis on the need of behavior changes with reference to the particular difficulties that children have in protecting themselves against immediate hazards. The specific type of local studies necessary was not only presented to teachers in this experimental period, but it was also pointed out

that the successful reduction in accidents to children was primarily the result of these data in the hands of the teacher and their use by him. In no case has this plan been used in its entirety since, and in only one or two cases has any part of it been used at all. We need to get back to fundamentals.[2]

A second study in the year 1924 pointed the way for the approach to the study of accidents, if it had been taken seriously by those concerned with the elimination of accidents. In that year the Department of Civil Engineering of Yale University analyzed 16,500 accidents caused by motor vehicles and indicated with precision their causes. They indicated the period of peak accidents by months, weeks, days, and hours of the day, as well as the situations in which accidents most frequently occur. Furthermore, they detailed in elaborate statistical studies with appropriate graphs the causes of accidents, the places and conditions under which they occur, and the person, whether driver or pedestrian, that was responsible. If this study had been followed with appropriate emphasis in the instruction of drivers, the public, and school children, the tragic toll of accidents in the State might have been prevented. The material has been hidden in a published volume and the slaughter of the innocent has gone on. The notable conclusion of the study was that ignorance was the primary cause of accidents. This signifies that education is the only means of attacking and eliminating ignorance.

Two other studies worthy of note illustrate the sort of attack on the problem of accidents likely to get results, although these are of limited application relating to the prevention of accidents in the secondary schools and colleges in the department of physical education.

Professor Lloyd[3] of New York University in 1933 made a study of the prevalence and nature of accidents and injuries in physical-

[2] For the discussion of this approach, *see* E. George Payne, *Local Studies of Accidents for Purposes of Instruction,* published as a part of the complete service on Public Safety of the Elliott Service Company of New York City, 1923.

[3] *See* theses abstracts 1933–1935, School of Education, New York University.

education activities conducted in the secondary schools, and sought to determine some of the factors that may be considered as contributory to the increase of accidents and injuries in these activities.

In 1935 Professor Eastwood[4] continued this study in the college field and sought to determine, first, the incidence, types, and severity of college physical-education accidents; second, the casual and contributory factors of accidents; third, the legal liability for such accidents; and fourth, the establishment of guiding principles that would facilitate remedial safety procedures in physical-education activities.

Aside from these studies, little scientific research into the causes of accidents to the public has been made. Therefore the schools in their instruction can only proceed blindly in their teachings. They can use the shotgun method and shoot into the air, with the hope that their prey will fall.

The obvious conclusion of this review of the accident-prevention situation and accidents is that there is urgent need of a fundamental consideration of the whole problem, the institution of an intensive program of research so that materials can be provided to teachers in their effort to render a vital service to the public in the elimination of accidents and hazards—the most serious blot on current civilization.

[4] *See* theses abstracts 1933–1935, School of Education, New York University.

SAFETY EDUCATION AS THE MENTAL HYGIENIST SEES IT

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The attitude which one might take toward education in matters of safety is to be thought of as part and parcel with one's attitude toward education in general. Just as an understanding of the meaning of education has undergone radical changes, in the same way we have passed, even within the period of the machine age, through several stages in our notions of how to educate toward accident prevention.

It is not so many years ago that the work of the schools was considered to be mainly imparting information. Civilization has progressed through a long period during which facts have been acquired. These are to be passed on to the younger generation, and it is for the teacher to perform this task. Outlines were thus made of the things that pupils should know at various stages in their academic career. But it was soon realized that doing was as important as knowing, that education was as much the acquisition of skills as it was the acquisition of information. This view has been quite prevalent for a decade or more.

Now, however, the pendulum is swinging again, and another phase is making its appearance. We are realizing that some of the prime objectives of education are being lost sight of; that the task of the school goes beyond providing the child with knowledge and with skills. The work of the mental hygienists has well shown that the child who has acquired all the knowledge and intellectual skill appropriate to his age may still be most poorly prepared for life as it exists in our present-day civilization. We are thinking here of that emotional feature of human life usually spoken of as adjustment. The poorly adjusted individual, however thorough his train-

ing may be, can never be said to be well prepared for life. Educators are beginning to sense this, and to realize that the real task of the school is to produce well-adjusted persons, even though they may know fewer facts about the world and have acquired less skill in such things as computation and reading. One might add that it is most unfortunate that the value of the schools in producing emotional attitudes seems to be clearly recognized only in the countries under dictatorships, where it is utilized for sinister and selfish purposes rather than for the benefit of the children.

Education in accident prevention must needs go through a similar evolution; it can hardly look for any real success until the last of these stages is reached. The first phase, that of giving information, is now in full swing. Children are being taught rules of safety and are learning intellectually what they should do. Will they do it? That is quite a different question. Another aspect of this phase of education is the use of slogans, verbalisms, and aphorisms. Our population as a whole has an almost childlike trust in their efficacy, and too many persons in positions of leadership share this view. Its fallacy is so apparent to any one who understands the mechanisms underlying human behavior as to be not worthy of further discussion here. It is sad that so much money and effort are spent in various safety campaigns that do not go beyond the use of slogans, and which in the end accomplish little or nothing. Studies and surveys of the incidence of accidents and their causes, now frequently appearing in high schools, are in essence cut from the same cloth.

The second stage in this development, however, is beginning to appear. Children are being placed in situations where they must follow out in their daily lives some of the rules and principles which they have learned. This may apply to everyday occurrences around the home and school, as well as to behavior in such things as crossing the street. A few high schools have gone even further, and are conducting practical courses in automobile driving. Surely, a child

learns more by doing than by listening or reading. Skill can be acquired in performing under the usual dangers inherent in daily existence. Even this is far from the goal. Specific habits are taught, each of which may minimize the possibility of accidents. But what is going to happen when a new situation arises, where the specific habit is of no value? There are no generalized habits. Education must pass beyond habit formation.

This, of course, leads to the next pedagogical step, which is a recognition of the fact that behavior is dominated by emotional attitudes, both conscious and unconscious. An appropriate example may well be taken from the efforts that are being made to test individuals for proneness to accidents in such an activity as automobile driving. Elaborate testing machinery has been devised to measure the particular skills involved, and to duplicate in miniature, so far as possible, actual conditions of driving.

The results have not been all that might be expected. Some traffic clinics are today beginning to minimize the test results and to emphasize studies of the personality of the driver. This, indeed, is the correct direction for effort. It points the way to educators. In the same manner, they should consider, first of all, personality development. The ideal is the production of a personality in which there shall be little reason for taking chances, and in which the exercise of care shall be a natural outcome of underlying motivations. Is there any justification for expecting caution in an individual who is constantly running away, actually, symbolically, or in fantasy, from a reality that is too difficult for him? Can we anticipate that the person whose pattern in life is to strike at the present situation in revenge for repressed injuries in the past will give anything but lip service to rules of safety? It may seem that we are going far afield, but the real basis of education for safety is the development of wholesome personality. A well-adjusted individual can learn how to prevent accidents. The poorly adjusted one may be given a wealth of instruction and profit not the least from it.

Here, then, is a task for educators that should challenge them to the utmost. Its difficulties are great, but not unsurmountable. But not even a start will be made until teachers and supervisors realize that everything they do and say to a child influences the development of his personality, and begin to consider this effect more important than the facts they teach, the discipline they administer, or the satisfaction they receive from the docility of their pupils.

SAFETY PROGRAM IN THE CLEVELAND PUBLIC SCHOOLS

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For almost twenty years the Cleveland public schools have acted on the assumption that *safety can be taught.* Continuously the schools have had the effective coöperation of the Cleveland Safety Council, as well as that of the Cleveland Automobile Club, the Traffic Division of the Police Department, the newspapers, the Parent-Teacher Associations, and other civic groups. The interest and services of these groups and organizations have stimulated the school safety councils. The officers and patrols of these councils need encouragement. They must be assured that their work is worth while and appreciated.

For a number of years, Carl L. Smith, director of the Cleveland Safety Council, prepared monthly safety lessons in the form of bulletins or folders which were distributed regularly to all the public and private schools in the Greater Cleveland area. More recently, Mr. Leslie R. Silvernale, with the coöperation of the Safety Curriculum Center, has revised and improved these monthly safety lessons. Following the course of study in safety, the monthly units have been based on seasonal hazards. The nature of these units can be indicated most effectively by presenting a typical unit. On pages 34–37 is the unit on "Winter Safety" for the month of January.

The monthly topics or units for the school year are:

September	— School Safety	February, March	— First Aid
October	— Fire Prevention	April	— Spring Safety
November	— Street Safety	May, June	— Summer Safety
December	— Home Safety		
January	— Winter Safety		

By emphasizing hazards at the season or period of the year when each type is most prevalent, learning in safety is most effective

SAFETY INSTRUCTION

ELEMENTARY AND SECONDARY SCHOOLS

January, 1937. **Subject: Winter Safety.**

This is the season in which enthusiastic skaters, coasters, and skiers are seeking ponds, lakes, rivers, and hills where they may enjoy winter sport. Under proper conditions, these activities are safe and healthful. In winter, as in other seasons of the year, it is the responsibility of the school to help bring about safe play conditions. That there is much to be done is demonstrated by the fact that many coasters still share hills with automobiles and skaters still take foolish risks on unsafe ice. It is the purpose of this unit to point out safe practices in the winter season. The fact that hills and ice are safe does not take the edge off one's enjoyment of them, but rather insures a good time, and permits young people to get the most benefit from hours of play.

SAFETY GUIDES

Coasting

1. Coast on hills free from traffic, or on streets closed for play by police orders.
2. Make sure that streets used for coasting are carefully marked, or guarded by policemen or safety patrols.
3. Put sand or ashes at the foot of the hill used for coasting if it runs into a street on which there is traffic.
4. Before coasting, look for such obstacles on the hill as trees, rocks, and fences. Make sure that you can steer safely by these obstacles before starting down the hill.
5. Coasting from driveways or graded lawns into the street is dangerous.
6. Follow traffic rules—keep to the right. When walking back up the hill, keep out of the way of other coasters.
7. Learn to steer straight. Be sure that your sled is in good condition so that it can be steered easily.
8. Be sure not to steer toward other children.
9. Avoid following other sleds too closely. Children on small sleds should permit bob sleds to go first.
10. Shout, so that children at the bottom of the hill will know you are coming.
11. It is well to remember that you can roll off your sled if you see that it is going to hit something. Protect your face and roll quickly to the side—away from oncoming sleds.
12. Traveled walks are for pedestrians, not for coasters.

Hitching

1. It is dangerous to hitch rides because:
   a. The speed of the vehicle may cause you to lose your hold.
   b. The roughness of the road may cause you to lose your balance.
   c. The sudden stopping of the vehicle may cause you to be hit by a vehicle approaching from the rear.
   d. If the vehicle turns a corner suddenly, it might swing you into the path of another vehicle.
   e. Heavy traffic makes it difficult for you to get back to the sidewalk.
2. It is wrong to hitch rides because:
   a. The person who hitches is trespassing on property belonging to someone else.
   b. It is unsportsmanlike to involve a driver in an accident caused by your recklessness.
   c. It is against the law.

because it is at the point of need. The child is made aware of the terrific toll of accidents. The fact that the annual toll in the United

Skating

1. Be sure that the ice is safe. Remember—"One inch, keep off; two inches, one may; three inches, small groups; four inches, O. K."
2. Be sure that your shoes and skate straps are not too tight. Such conditions may cause chilblains.
3. Be sure that skates fit well and are securely fastened.
4. Be considerate of others. Unnecessary roughness may cause injury to a less experienced or younger skater.
5. Avoid skating in territory where such games as hockey are being played unless you are on the team.
6. Skate only on supervised ponds, lakes, and rivers. Skating on ice over running water and near dams is hazardous.
7. Make sure that holes and weak spots in the ice are clearly marked.
8. Skating in the street causes traffic accidents.
9. Little children should not go skating alone.
10. Obey traffic rules when skating.
11. If you fall through the ice, do not struggle to get out if you find that the ice is too thin to support your weight. Support yourself with your arms spread over the edge of the ice and kick your legs (crawl kick) to keep them from coming up under the ice in front of you. If the ice is thick enough to support your weight, try to crawl forward flat on your stomach until your hips are at the edge of the ice. Then quickly swerve sideways and with your arms above your head roll away from the hole.
12. When attempting to rescue someone who has fallen through the ice, use:
    a. Plank or Pole Rescue. Push a plank or pole near enough the edge of the hole for the victim to reach. By means of the plank or pole, the victim is able to distribute his weight to thicker ice and climb out. If the victim is helpless, the rescuer may slide out toward him on his stomach, distributing his weight on the plank or pole.
    b. Rope Rescue. Throw the knotted end of a rope to the victim or tie a thirty inch noose at the end for him to slip his head and one arm through. If the victim is helpless, the rope may be tied under the armpits of the person going to the rescue and the other end held by those assisting.
    c. Human Chain Rescue. This method is used by a group if rescue material is not available. Members of the chain slide on their stomachs, each holding on to a skate of the person ahead with one hand and using the other to help push himself ahead. Persons at the shore end of the chain kneel or stand and pull when the chain moves backward.
13. After a person who has fallen through the ice has been rescued:
    a. Wrap something around him, make him exercise, and get him to a house as quickly as possible.
    b. If he is not breathing, administer artificial respiration.
    c. Call a doctor so that the person may have proper care for immersion and shock.

Snowballing

1. Hard snowballs are dangerouse missiles. Use them for distance and target throwing contests only.
2. Throwing snowballs of any kind toward another's face is unsportsmanlike and may cause injury.
3. Throwing snowballs at the driver of a car may cause a traffic accident.

Skiing

1. Look over unknown slopes before trying them.
2. Beginners should leave heel straps open.
3. Ski cautiously when there is a light snowfall, a fresh fall, or a crust.
4. Do not carry ski poles across front of body.
5. A city street is not a safe place to ski.

States is approximately ten million persons injured, and more than 100,000 killed concerns vitally the welfare of every boy and girl.

4. Take a trip to a nearby traffic light on a day when streets are icy. Note difficulties of drivers. Point out added precautions pedestrians must take.
5. Learn the safe places to coast in your neighborhood. Stress the danger of coasting from driveways, and of making slides on sidewalks.
6. Make simple posters illustrating safety rules for winter play.
7. Discuss safe snow play. Develop the idea that snowball target throwing games and distance throwing contests afford exciting diversion, and may serve as a safe substitute for throwing hard snowballs at each other. Snow sculpture is another form of snow play that is both safe and entertaining.
8. Read stories about winter fun as a basis for studying winter hazards.
9. Make a list of "Do and Don't" rules for winter play.
10. Learn to read signs such as "Danger," "Thin Ice," "Keep Away." Learn that a red flag displayed on a skating pond or elsewhere denotes danger.

Fourth, Fifth, and Sixth Grades

1. Discuss all safety guides which apply to your grade.
2. Make a list of the safe places for coasting and skating in your neighborhood.
3. Have the class formulate a list of rules covering fair play in coasting; fair play in skating. Discuss each rule proposed and use only those which are acceptable to the group.
4. Have pupils observe activities on a hill used for coasting; on a skating rink. Make a list of safe practices observed; unsafe. Discuss each of the suggestions made so that the real sentiment of the group will be secured.
5. Discuss the added responsibility of both pedestrian and driver on icy streets.
6. Keep a scrap book of clippings from newspapers and magazines on safety topics. Have a section for winter safety.
7. Describe or demonstrate methods of rescuing persons who have fallen through the ice.
8. Describe or demonstrate treatment for frostbite and extreme exposure to cold.
9. Read stories about winter sports emphasizing safe practices.
10. Draw up a list of New Year's Resolutions covering safe practices in winter sports
11. Discuss why it is poor sportsmanship to:
    a. Throw hard snowballs except at targets.
    b. Hitch with sleds.
    c. Coast on streets not set aside for the purpose.
    d. Make icy slides on sidewalks.
    e. Neglect to clear snow and ice from sidewalks.

Seventh, Eighth, and Ninth Grades

1. Discuss all safety guides which apply to your grade.
2. Make a survey of the winter sport situation in your neighborhood.
    a. Have a committee report on safe and dangerous areas.
    b. List the hazards which will prevent safe participation in winter sports. Include such things as traffic, thin ice, carelessness, lack of knowledge and skill, lack of supervision, etc. Can these hazards be overcome by the individual, school, or city? How?
3. Describe methods of rescuing a person who has fallen through the ice.
4. Describe treatment for frostbite and extreme exposure to cold.
5. Make posters or charts illustrating ice rules, an ice rescue, etc.
6. Discuss why it is poor sportsmanship to:
    a. Throw hard snowballs at targets.
    b. Hitch with sleds.
    c. Coast on streets not set aside for the purpose.
    d. Make icy slides on sidewalks.
    e. Neglect to clear snow and ice from sidewalks.

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Our schools are making a genuine effort to enable every child to acquire adequate knowledge, necessary skills and habits, and the

Winter Safety About the Home

1. Keep snow shoveled from sidewalks and steps.
2. Making slides on travelled walks may cause injury to pedestrians.
3. Spread salt, ashes, or sand on icy steps and sidewalks.
4. Watch out for snow and icicles falling from roofs.
5. Be careful not to overheat stoves and furnaces. Do not leave the house with the furnace draft open.
6. Keep away from wires that have been brought to the ground by snow and sleet.

Crossing Icy Streets

1. Allow greater distances between yourself and passing vehicles to "play safe" in case you should fall or the car skid in stopping. An automobile on icy streets might easily become a "sled" out of control.

Frostbite and Exposure

1. Avoid frostbite by wearing sufficient clothing in freezing weather, and by rubbing briskly any part of the body that becomes cold.
2. If part of the body has been frostbitten, gently cover the frozen part with the hand or other body surface until the part is thawed and circulation reestablished, or immerse the part in cool water.
3. When circulation has been restored, apply vaseline or any good preparation used for burns.
4. In case of extreme exposure to cold:
   a. Place the patient in a cool room, and rub the limbs briskly with cloths wet in cool water. When the patient begins to react, raise the temperature of the room gradually.
   b. When the patient is able to swallow, give him a hot drink such as tea, coffee, or cocoa. Then place him in a warm bed.
   c. It is dangerous to place the patient in a hot bath or near a hot stove or radiator.
   d. If any part of the body becomes inflamed or blistered, treat as for burns.
   e. In cases where the patient is only chilled and no parts of the body are frozen, put him in a warm bed and give him hot, stimulating drinks.

Ordinances

The following municipal ordinances (condensed) of Cleveland have to do with winter safety. Other cities have similar ordinances.

Section 2376. Shovelling sidewalks, spreading ashes, etc. Every owner, occupant, or person in charge of any building or land fronting on a city street must clear the snow from the sidewalk in front of his building or land before nine a. m. each day.

If it is impossible to remove all the snow and ice from the sidewalk, the owner, occupant or person in charge shall make travel safe and convenient by spreading ashes, sand, etc.

If the owner fails to comply with this section, the director of public service may remove the snow and charge cost to owner.

Section 2377. Any person who violates Section 2376 may be fined $5 for each offense and $1 for each day said violation continues.

Section 2495. Coasting and skating in the street. It is unlawful to coast or skate in the street, unless the street shall have been set aside for playground purposes.

Section 2497. Hitching. It is unlawful for any person traveling upon a bicycle, coaster, sled, roller skates, etc., to attach himself or his vehicle to any other moving vehicle or street car upon any roadway.

SUGGESTED ACTIVITIES

Kindergarten, First, Second, and Third Grades

1. Discuss all safety guides which apply to your grade.
2. Discuss:
   a. Proper clothing for winter wear.
   b. Hitching accidents as reported in the newspapers.
   c. Why snow should not be eaten.
3. Encourage children to take the home responsibility of keeping front and back steps free from snow and ice.

wholesome attitudes which will protect him from accidents and influence him to be of service to other children.

Instilling fear is not a constructive form of safety education. Children entering school represent individual problems in safety all the way from timidity, or cowardice, at one extreme, to rashness, or recklessness, at the other. It is not a simple problem to develop confidence, courage, good judgment, and the spirit of coöperation on the part of all.

Most effective safety education and service are secured through the committee of the Safety Council in each school known as the Street Patrol. The work of these patrols has been an important factor in reducing the number of fatal traffic accidents to children in Cleveland more than sixty per cent since 1929, while there has been a reduction of only ten per cent in adult traffic fatalities.

While we have endeavored to avoid the addition of a new and separate subject to the curriculum, we are convinced that safety education cannot become effective by mere incident and accident. Time is conserved and efficiency is secured only by means of a well-organized and definite program directed toward the safety of the individual and of the community. All of the safety factors are present in the everyday activities of pupils at home, on the streets, and at school. Pupils will assume much of the responsibility for carrying on these necessary activities for living at home and at school in the interest of safety. Reading, elementary science, organized play, crossing the streets, assisting traffic officers—in short, nearly all subjects and activities required for the operation of a modern school can be organized and directed in the interest of safety education.

The coöperation of school patrols with traffic officers is rapidly changing the attitude of pupils toward police officers. Police are being accepted as friends, and no longer enemies of children. This means much from the standpoint of law and order.

Many have little confidence in safety education. They assume that accidents are unavoidable. They forget that smallpox and typhoid and other fevers were once considered inescapable. These physical plagues would quickly return were it not for the fact that

competent and interested persons are giving them constant attention. Carelessness, combined with ignorance, would make our modern cities uninhabitable. Pure water and sanitary foods are not the results of accident. They represent the price of constant vigilance.

The minute a child begins to walk, he steps out into the most dangerous environment the race has ever known. It is becoming increasingly speedy and more complex. No longer can the child depend upon his instincts alone. Witness the highways strewn with mangled rabbits, squirrels, dogs, chickens, and even birds. The hope for the child is knowledge, attention, and a set of safety habits. Carelessness and inattention cannot be eliminated by the simple instinct of self-preservation. Not only the streets, but the homes, are being filled with power and speed. The schools must develop a safety-education program more comparable with the growing hazards to life and limb. Such a program can be made to serve other subjects such as English, science, physical education, health, citizenship, etc., as well as the children concerned. Safety can be made to contribute to the value of practically every subject, especially by adding the quality of reality to the subject. Pupils are fully aware of the fact that the problem of safety is a live one. Consequently any subject which contributes to the safety-education program adds to its own effectiveness. However, it should be the obligation of the principal of any school to designate the teacher of some subject, or the teacher sponsor of the Safety Council, as the one responsible for seeing that the safety program is unified and adequately covered.

In the secondary schools the new phase of safety education is instruction and practice in safe driving. The highways will be safer when the graduates of our high schools can give evidence of adequate knowledge regarding the mechanics of a car and skill in operation on the highway.

SAFETY EDUCATION IN THE BALTIMORE SCHOOL SYSTEM

PEARL W. GOETZ

Intermediate Grade Supervisor, Public Schools, Baltimore, Maryland

In a recent weekly radio broadcast, the purpose of which is to inform the citizens of Baltimore regarding the various programs and activities carried on in the public schools, the question of why safety has been made an important part of the educational program in this city was raised. The point was made in the discussion that safety education was stressed, *not* because a group of influential citizens have insisted upon it, but because present conditions in this city as well as elsewhere have made it absolutely essential that attention be directed toward the conservation of human life. Dangers resulting from the ever increasing amount of traffic, the widespread uses of electricity, and the rapid pace of twentieth-century life have caused much emphasis to be placed upon safety work in the schools. The great reduction in the number of accidental injuries and deaths to the school children of Baltimore since the introduction of safety into the curriculum offers some proof of the effectiveness of this type of educational training for boys and girls.

In the Baltimore school system, it is felt that unless safety-mindedness permeates the entire life of the child in school, at home, and in the community at large, it fails to achieve its goal. Safety education, therefore, is embodied in the *entire curriculum*. For example, records of accident statistics furnished by the national and local Safety Councils are utilized in the teaching of arithmetic. Children learn to make computations and solve problems which have safety significance. Through this means they are led to understand facts with regard to the present accident situation and to realize the need for using measures to ensure safety for themselves and others.

A science lesson that touched vitally upon the topic of safety was

in progress recently when a supervisor entered a sixth-grade classroom. The children were busily engaged in reading and experimenting to find why a toy electric game was able to answer certain questions accurately. In the class discussion that followed the children's independent investigation, the great value of electricity to man was emphasized. One child, however, made the point that electricity is sometimes man's enemy. A second pupil made the comment "Electricity would not be harmful if the people who used it understood it and were careful." Through these observations made by the children themselves, the entire class became interested in the problem of how accidents connected with the use of electricity might be avoided. As the unit in electricity was further developed in succeeding lessons, the children learned about the safe use of electricity as they found the answers to questions such as: "What makes a bell ring?" "How is electricity produced?" and "Why is the electrical game able to answer questions?"

Certainly this development of "Safety in the Use of Electricity" was much more meaningful than the use of a class discussion period devoted to the development of a series of "Don'ts"!

Language activities, too, have been used as a means of interesting children in safety. Many conversations, debates, oral and written stories, original poems, letters, and bulletin-board notices have had as their basis some safety theme of definite significance for a given group of children in a particular school. English work based on a safety theme has proved purposeful, providing the same (or better) opportunities for individual growth in expression as those offered through the utilization of topics based on any other types of children's experiences.

It can be seen from the examples mentioned that in Baltimore a special effort has been made to have safety instruction function as a part of the regular school subjects. The "Course of Study in Safety Education for Elementary Grades" cites many suggestions for safety instruction and opportunities for safety practices in connec-

tion with each subject in each grade. In making plans for the teaching of a new unit, the teacher who refers to these suggestions chooses those activities which she thinks might be especially suitable for her class. The aid of other teachers and pupils of classes on the same grade is often enlisted in working out some of the selected activities. Thus, through integrating safety with all subjects, "extra emphasis" upon safety has been made possible without "extra time" for the work.

Daily lessons in the classroom are not the only means used to inform children of school and community safety problems. Through coöperation with the Baltimore Safety Council and other local agencies, motion pictures and speakers suitable for school assemblies are secured. The choice of a motion picture or speaker is dependent upon the type of safety program which a specific school is emphasizing at a given time. For example, during Fire Prevention Week, a member of the Baltimore Fire Department may be asked to speak at an assembly. Employees of industrial organizations may sometimes be invited to discuss and to illustrate safe practices in connection with certain types of occupations. These talks are especially helpful to pupils enrolled in schools where occupational training is emphasized.

The safety assembly program does not always feature a speaker or movie. It may be devoted to a discussion of ways of preventing accidents. The need for such an assembly might be shown by the student accident summary report which is prepared monthly by each school. Places in the school building, at home, on the street, and on the school playground which seem to offer safety hazards for children are revealed through a study of this report. A discussion of each accident may lead the children, teachers, and principal to devise ways in which further accidents of similar nature may be avoided. Safety plays prepared by a small group of pupils may be presented to the entire school during the assembly periods. Any plays chosen for this purpose are selected not only because of their

entertainment value but also because of the safety messages which they present to the audience. Well-planned safety assembly programs provide a very adequate opportunity for the development of desirable attitudes toward safety.

Although class and group discussions of safety problems and practices are considered important, effective safety instruction cannot be successfully accomplished through the use of discussion only. Opportunities for the children to practice some of the safety precautions about which they talk need to be provided. The teachers in the Baltimore system are encouraged to provide as many opportunities as possible for children to practise as well as to talk about safety.

For example, kindergarten and first-grade children are faced with the problem of getting to and from school safely each day. The teacher may discuss with the pupils the need for obeying the traffic policemen and the traffic signals which are encountered on the route from school to home. This discussion may be followed by a brief period of practice in crossing "make-believe" streets in the classroom. For this practice a toy semaphore and a pupil policeman are used. An excursion to some near-by center of interest may be planned later mainly for the purpose of providing the children with an opportunity to gain further practice in an actual life situation. A map of the school neighborhood showing street crossings protected by traffic lights, traffic policemen, or safety patrolmen may be placed on the blackboard after the class returns from a neighborhood excursion and each child may use it to plan for himself the safest route to school.

In the art room, gymnasium, and shops, close supervision of children's use of tools and equipment is given at all times. Suggestions regarding the correct handling of a saw, a lathe, or a piece of play apparatus are given to individual children who handle these materials. Classroom discussions based on home hazards are followed frequently by home inspection campaigns so that pupils may apply

some of the suggestions offered for making the home safe. Organized play during the recess period helps the children to see the importance of choosing suitable types of play places for certain games, handling play equipment properly, and of respecting each other's rights. Games played after school hours are frequently more safely played because of this training that the children receive at school. Occasions for stressing safety, which constantly arise in the daily management of routine activities, are utilized. The distribution and collection of material, the management of routine in connection with the entrance of a large group of children into a room or building, and the organization of activities during a manual work period offer excellent opportunities for children to develop safety habits.

The Junior Safety Council and the Safety Patrol contribute greatly to the success of the safety program. At the meetings of the Safety Council dangerous practices and the work of the safety patrolmen are discussed and safety measures devised. The Junior Safety Council is the center of interest around which the safety work of the school revolves.

The Safety Patrol has as its objective the safe conduct of children in crossing the streets in the vicinity of the school, on the playground, and in the school building. The children, on their way to school, will find each dangerous crossing patrolled by one of their schoolmates. They wait until the patrolman indicates that there is a lull in traffic and that it is therefore safe for them to cross. At intersections where traffic is controlled by an officer, a traffic signal, or both, the safety patrolman who stands on the pavement directs the crossing of the children in accordance with the directions of the signal or the officer. Both the Council and Patrol work under the direct guidance of the Safety Faculty Advisor who, in turn, works with the principal and teachers. These two organizations get real enjoyment out of aiding in the development of attitudes and habits which will help each individual to think, feel, and act safety. In

addition to the useful work accomplished for others, the members of the Council and Patrol receive real personal benefits. The responsibilities which they must assume in connection with the performance of their duties promote the development of a sense of social and civic responsibility, the abilities to think and act quickly in an emergency, to use initiative, to be a good leader, to show judgment, and to work earnestly.

For the past three years another activity has been utilized in the public schools of Baltimore as a further means of maintaining children's interest in developing desirable habits and attitudes in regard to safety. We provided for an annual safety campaign. It was hoped by the members of the committee who planned the campaigns that this might further encourage the teaching of safety and promote safety-mindedness among the teachers and pupils of the public schools. The wide variety of purposeful safety programs and activities carried on in each school, as well as the great quantity of original, effective safety materials produced by the children during the period of each campaign, gives evidence that the purposes set up by the committee are being accomplished.

The annual campaign is begun about the middle of March and continues until the middle of May each year. Although particular attention to safety is given during this period, the work carried on by schools throughout the year is taken into consideration in selecting the winners of the contest. Four judges, selected at the beginning of each campaign, study the reports and materials sent in from all parts of the city to decide which schools have done the most outstanding safety work. On the basis of their decisions, bronze trophies are awarded to one elementary school, one junior high school, and one senior high school in each division.

Three points are considered by the judges in examining the campaign returns:

1. The effectiveness of safety education in each school as evidenced by monthly reports to the Baltimore Safety Council

2. The effectiveness of safety education in each school as evidenced by an outline of planned monthly programs and activities for the year
3. The effectiveness of the most outstanding contribution made by each school during the period of the campaign

The schools that are selected as winners are allowed to keep the bronze trophies until the next campaign, when they are presented to another group of winners.

The annual campaign always culminates in an exhibit of the safety work done by the boys and girls during the year. The types of materials displayed are many and varied. Maps, models, charts, and posters show how boys and girls use their skills in making their safety work interesting and vital.

The aid of parents is also enlisted by the schools as a means of safeguarding the lives of children. A message given to parents, through a recent school radio broadcast in an effort to get their coöperation in eliminating traffic accidents, contained the following suggestions:

First, talk over with *your* child the safest way to go to school. *Plan a route that eliminates as many crossings and as much heavy traffic as possible.*

Second, discuss the necessity for care in observing mechanical traffic signals and the dangers of "jaywalking."

Third, impress upon your child the reason for obeying the signals of the safety patrolmen.

Fourth, encourage your child to help the Safety Council in his school.

Fifth, specially charge the child not to "thumb" rides. "Hitchhiking" is a very dangerous practice for both motorists and hikers.

Since parents cannot help but be interested in the welfare of their children, their efforts serve to reinforce the school's program in safety.

The administrators and members of the teaching force are convinced that the introduction of safety education into the curriculum

in Baltimore has been successful. The success of this work may be attributed largely to (1) the coöperation of pupils, teachers, school administrators, parents, and the personnel of the National and Local Safety Councils in promoting safety-mindedness; (2) the integration of safety with all subjects of the elementary curriculum; and (3) the stressing of a wide variety of safety activities in order that pupil interest may be stimulated and maintained. Each of these factors has had an important part in the advancement of the safety work. What the future success of this program may be cannot be predicted at present; but it is hoped that the children who are now receiving safety training in our schools will become citizens who will think and act safety at all times.

SAFETY FROM AN INDUSTRIAL VIEWPOINT

C. L. SANKEY

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According to the National Safety Council, during the year 1936 there were in the United States 18,000 occupational deaths and 1,500,000 industrial injuries, involving a total economic loss of $660,000,000. Had the rates of occupational death and industrial injuries that prevailed in 1913 continued to 1935, inclusive, there would have been, during this period, 250,000 more deaths and 1,500,000 more disabling injuries than actually occurred.

These figures do not include the hundreds of lives that have been sacrificed on the altars of scientific research and progress, especially in the field of medicine, radium, and roentgenology. Such lives, we trust, have not been sacrificed in vain, but rather for the purpose of preserving future generations. But the lives that are lost and the injuries suffered in industrial accidents can seldom be considered as part of the cost of scientific progress. It is true that the rate of this human waste has decreased significantly over the past twenty-five years; but it is still far too high. What can industry and the schools together do to lower the accident rate still further?

THE SAFETY PROBLEM IN INDUSTRY

Farsighted industrialists have, for some time, recognized accident prevention as both a humanitarian and economic necessity, and a new figure, that of safety engineer, or director, has appeared to coöperate with the foremen in performing a now indispensable function in the field of industrial and business operations—the reduction of the frequency and seriousness of our accidents.

When the problem of reducing deaths and injuries in industry was first seriously faced, major consideration was given to equipment; but investigators soon realized that a decreasing rate of in-

dustrial accidents could not be attained by the introduction of safety appliances and protective devices alone. An intensively applied, never ceasing, safety educational program was found to be, and is today, indispensable—an integral part of every well-organized industry.

The safeguarding of machinery and operating procedures is no longer a problem in industry. Modern machinery is practically foolproof, and processes have reached a high degree of efficiency—thorough efficiency implying the maximum quantity and quality of product with *safety* in its production. The safety engineer must, of course, concern himself with equipment and processes, but he finds that the greatest single factor contributing to the decreasing of accidents is the careful selection, training, and supervision of employees. As long as the human element continues to be a major factor in the operation of our industrial machinery and equipment, we shall be faced with the problem of training and safeguarding those unfortunate individuals who, because of ineptitude, inability, carelessness, or misguided inquisitiveness, seem fated to develop into causers of accidents to themselves and to their fellow workers. The outstanding problem, then, in accident prevention, is people. How can industry—and we include here both manufacturing and commercial operations—select, train, and supervise its employees so that they will work without accident?

SELECTING AND TRAINING THE NEW EMPLOYEE

A new employee is selected for his probable fitness to perform a job; this fitness is determined from an analysis of three factors: his previous background, his physique and health, and his personality as he displays it to those who interview him.

His background determines the amount of knowledge and skill that he brings with him to the job. It also has established his habits in the use of this knowledge and skill. Upon his physique and health will depend his physical competence to perform the work

for which he is being considered. His personality will decide the degree to which he will fit in with the working group to which he will be assigned. On the basis of these factors industry will attempt to build him up—through training and supervision—into one of its primary assets, a skilled worker.

After acceptance, the new employee goes through a probationary period of training—either formal or informal—during which he is observed for characteristics undetectable during the employment-interview period. During this probation he is expected to demonstrate that he will become a skillful, reliable, and safe worker. He is expected to learn not only his specific duties but also the general standards and practices contributing to safely pursued and efficient work that his company has established. Also, throughout this probationary period, he is expected to become impressed by the inseparable association between really skillful work and freedom from accidents.

This preliminary training, however, is only a beginning. Training in skill and its concomitant, safety, continues throughout the employee's association with his company. Among other safety-training activities, lectures, meetings, and conferences on safety are held on company time, and attendance at them is compulsory. Committees may be formed to check accident reports, investigate hazardous conditions, study accident-prevention suggestions, and pass upon the merits of new safety devices, posters, and working procedures. Such activities help to stimulate interest among the employees. When a rotating committee plan is maintained, every man in the group is assigned an active part in the safety program of the plant and is made thoroughly familiar with his company's operating and safety policies.

Instruction in first aid and resuscitation is frequently included in an employee-training program, as is also the correct method of removing persons from electrical contact, submersion, and gaseous atmospheres. This instruction, imparted by qualified teachers, is

invaluable not alone because employees may thereby assist fellow workers in time of need but also because they may perform similar services to nonemployees. Corporate records contain many testimonials to such service.

WHAT THE SCHOOL MAY DO TO HELP

1. As has been already stated, business and industry select their new employees on the basis of background, physique and health, and personality, into all of which the influence of the school has largely entered. The stress which the employer places upon these factors is proof of his reliance upon them as aids in the prevention of lost time through accidents and illness. Avoidance of accidents and illness should be no less stressed in general, commercial, and vocational education. Time lost from study, from these causes, not only interrupts the orderly progress of the student's education and retards his advancement, but may also lay the foundation for an unsatisfactory record in his vocation.

2. We recognize that, whereas industry can and does select its personnel with care, the school must accept any one of school age. The vocational schools are especially handicapped in this direction because usually a school system's selective methods are operated in such a way that the mentally less quick students are frequently shunted to the vocational classes, whether these pupils are industrially minded or not. With all due respect to the fine efforts that vocational counselors in school systems are making, the election of courses by many students in the secondary schools seems to be based largely on misconceptions of the content of the courses and of their own needs, with relatively little regard for their capacity to assimilate the instruction provided.

Because of this situation, teachers are faced with a real problem. They must waste time trying to develop knowledges, skills, and habits in students who frequently have little or no capacity to assim-

ilate them. Would not better methods of selection and placement in the school aid in laying foundations for satisfactory vocational records—not alone in the relative absence of lost time resulting from accident and illness but in all other respects?

3. Industry has learned that there is such a thing as "accident proneness"—that certain individuals seem to have the habit of having accidents. Whether or not this tendency is inheritable, it can be conditioned in the school just as any habit can be corrected or formed. The habits of safe living and safe working can be acquired in early life without any paralysis of initiative or loss of efficiency. Thus it seems to many of us in industry that the school could render to pupils a tremendous service by inculcating these habits.

4. Roughhouse and horseplay are out of place in the school as well as in industry and can be eliminated without impairment of high spirits.

5. Still another safety measure that students can be taught is order. The habit of safeguarding tools, material, and equipment in desks and on the benches can be developed. Industry has found that many hands are punctured by carelessly placed pens and pencil points and that fingers are cut by open knives and paper cutters carelessly placed in desk drawers. Industry places great stress on keeping aisles clear, filing cabinet drawers closed, and working material placed in designated locations. The school can train the youngsters to observe such rules.

6. Industry insists that safety signs and access to fire extinguishers should never be obstructed. The school does so, too; the fact and the reasons for it can be impressed upon students. Industry prohibits the hand-oiling or cleaning of machinery while it is in motion. The school can train its pupils to have the same respect for machinery in motion. Industry insists that goggles must be worn by an employee who is grinding, chipping, or drilling, or who is observing a welding operation or looking into a hot furnace. The school can do the same. Industry sees to it that employees do not

lift objects too heavy for their strength. The school, too, can warn the student of the dangers of overexertion.

7. Industry—in its instructions—even goes into the matter of suitable clothing by discouraging or prohibiting loose-flowing sleeves or cuffed or ill-fitting jumpers in the shop. The school, also, can advise students regarding clothing suitable to the job in hand.

8. One of our most serious safety problems is carelessness in the use of, and even disdain for, accident-prevention devices and precautions. In comparison with our present-day exposures to situations which, if improperly handled, would cause accidents, the frequency of occurrence of injuries is low, even though the total number is distressingly high. It is difficult to convince some people that suitable precautions will prevent accidents. In our hurry we are prone to cut corners. The school could render invaluable service by instilling in its pupils a suitable respect for established rules and regulations, and a farsighted self-restraint in making amateurish experiments.

CONCLUSIONS

In short, up-to-date industrialists consider safety education a matter first of providing as safe and sane an environment (including the necessary equipment) as the nature of a job will permit, and then developing the habits and attitudes necessary for its effective use. The school can develop in its students the same habits and attitudes even more effectively because the students come to it younger and more impressionable.

The fundamentals of industrial safety need not be taught in instilling a fear complex or by curtailing the use of hand or power tools, but rather by stimulating and developing the conviction that the habit of working with safety to oneself and others is proof of a man's efficiency. Boys do not forgo the pleasures of baseball, hockey, or football because they must take certain precautions, be selected for suitability, and follow prescribed rules which reduce the hazards

of these games. A mountain climber risks slipping, but attempts to safeguard himself with cleats and other devices. If these precautions are indispensable in sport, how much more essential are they and others with the same objective—conservation of our arms, legs, hands, eyes, our very lives—in order that we may be not social liabilities but social assets.

Summarized, the reduction of accidents and their consequences is dependent upon selection and training, in the school as well as in industry. Furthermore, the habits and attitudes toward safety that the youngster acquires in school go with him, as a general rule, into his vocational life. If the youngster learns in school to do things and to use tools and equipment safely; if he learns to respect the rights of others so that he will not create hazards for them; if he learns to follow instructions, both written and oral, general and specific; in a word, if he acquires habits of intelligent self-discipline and an attitude of willingness to listen to and to understand instructions, he will possess invaluable qualifications for whatever career may be his.

(*Editorial Note:* This article by Mr. Sankey is of special interest because the company in whose service he is has established a conspicuous and enviable record for effective safety training. To the educator one striking detail must appeal strongly: the dependence of safety upon *learning to follow instructions, both written and oral.* Has it perhaps occurred to us that here we are dealing with one of the major silent-reading abilities: one on which too little training and practice is given in the grammar and junior-high years?—*S. G. R.*)

RESEARCH PROJECTS AND METHODS IN EDUCATIONAL SOCIOLOGY

In order that this section of THE JOURNAL *may be of the greatest possible service, its readers are urged to send at once to the editor of this department titles, and where possible descriptions, of current research projects now in process in educational sociology and also those projects in kindred fields of interest to educational sociology.*

PRESIDENT'S COMMITTEE ON VOCATIONAL EDUCATION

The immediate events leading up to the establishment of the President's Committee on Vocational Education began with the adoption by Congress of a legislative proposal now known as the George-Deen Act.

The Act was approved by the President on June 8, 1936. On the same date, he addressed identical letters to Senators Smith of South Carolina and George of Georgia, and to Congressmen Palmisano of Maryland and Deen of Georgia. The text of the letter was in part as follows:

I have approved H. R. 12120, a bill "to provide for the further development of vocational education in the several States and Territories," because of my deep interest in providing our young people with adequate opportunities for vocational training. So many criticisms have been directed at the bill in its present state, however, that it seems to me advisable, before the Act goes into effect on July first, 1937, that a disinterested group review its provisions in relation to the experience of the Government under the existing program of Federal aid for vocational education, and the relation of such training to general education and to prevailing economic and social conditions.

In accordance with the intention expressed in this statement, the President appointed the Committee on Vocational Education on September 19, 1936. The text of the identical letters sent to each member of the Committee was as follows:

At the time I approved H. R. 12120, which authorizes additional appropriations for Federal aid for vocational education in the several States and Territories, I indicated my belief that before the Act goes into effect on July 1, 1937, the whole subject should be reviewed by a disinterested group. It is my thought that such a group should study the experience under the existing program of Federal aid for vocational education, the relation of such training to general education and to prevailing economic and social conditions, and the extent of the need for an expanded program.

I take pleasure in inviting you to accept membership on a committee to make such studies and to develop recommendations which will be available to the Congress and to the Executive. The services of the several Federal departments will be available to this committee. Traveling expenses incurred by members in attending committee meetings will be met by the Government.

I hope that it will be possible for you to serve in this capacity and to assist in the development of a sound basis for a program of vocational education which will be of maximum benefit to those affected.

Professor Floyd W. Reeves of the department of education, University of Chicago, was designated by the President to serve as chairman of the Committee. The other members of the President's Committee on Vocational Education are as follows: W. Rowland Allen, Dr. Edmund deS. Brunner, Oscar L. Chapman, Elisabeth Christman, Gordon R. Clapp, Ernest G. Draper, Alice Edwards, Henry Esberg, Mordecai Ezekiel, John P. Frey, Reverend George Johnson, Thomas Kennedy, Katharine F. Lenroot, Dr. A. B. Moehlman, Henry C. Taylor, T. J. Thomas, and John H. Zink.

The Committee has met and organized and is beginning its work in accordance with the instructions from the President. The office of the Committee is located in the Auditorium Building, Washington, D.C.

PACIFIC SOCIOLOGICAL SOCIETY NOTES

The Pacific Sociological Society held its eighth annual session at the University of Oregon, Eugene, Oregon, December 28–30, 1936. At its first joint session with the Pacific Coast Economic Association, the general subject, Social Security, was discussed by the representatives of both organizations. Dr. William S. Hopkins, University of Washington, and Dr. George B. Mangold, University of Southern California, read papers on "Seasonal Employment and Unemployment Insurance" and on "Translation of Social Theory into Social Legislation," respectively. The second joint session heard Dr. Carl Sauer, University of California, on "Regional Reality in Economy," who advocated a total-situational methodology. Dr. Charles N. Reynolds, Stanford University, and president of the Pacific Sociological Society, and Dr. Kenneth Duncan, Pomona College, president of the Pacific Coast Economic Association, delivered their thought-challenging presidential addresses on the subjects, "Sociology and Social Reform" and "The Economist and His Critics," respectively.

In addition to social security, the Society's program covered a wide

range of topics of direct interest to sociologists. Under Criminology and Penology, two papers were given by J. Herbert Geoghegan, supervisor of education, United States Penitentiary at McNeil Island, dealing with "The New Penology in Practice," and Dr. Lloyd LeMaster, Oregon State Agricultural College, who spoke on "The Comparison of Continental and English Law in the Handling of Criminals." Concerning Recent Social Theory, Dr. Elon H. Moore, University of Oregon, and Dr. Elton F. Guthrie, University of Washington, offered seasoned papers on "Blanks in Social Theory" and "The Absence of Historical Perspective in American Sociology and the Revival of Historical Materialism," respectively. The session devoted to Methodology and Research Techniques scattered intellectual sparks from two diametrically opposed papers by Dr. Arthur E. Briggs, dean of Metropolitan Law School, Los Angeles, on "Science of Economics from the Viewpoint of Socio-Legal Economics," and Dr. C. W. Topping, University of British Columbia, on "The Engineering Approach to the Delinquent and the Criminal." The Society's last session dealt with the problem of Introductory Course in Sociology. Dr. Richard T. LaPiere, Stanford University, offered his views on the "Content and Technique of Teaching the Introductory Course," and Professor Carl E. Dent, Washington State College, presented statistical and interpretative data concerning the "Status of the Introductory Course in Sociology on the Pacific Coast."

In order (1) to assure a more representative and democratic procedure, (2) to stimulate intelligent participation, (3) to foster a livelier discussion, and (4) to overcome current singularistic presentations by the major speakers, the program chairman had arranged panel discussions. The panel members, having had access to the papers in advance, raised pertinent, pointed, and penetrating issues for consideration in every session except the presidential addresses. Although all the papers read will appear in *Sociology and Social Research* in abridged form, unfortunately the significant issues arising from the observations and reactions of the panel-discussion members and the contributions of other members of the Society cannot be presented for lack of space.

Officers for 1937 are: president, George B. Mangold, University of Southern California; vice-presidents, Fred R. Yoder, Washington State College, and Glen E. Hoover, Mills College; secretary-treasurer, Samuel Haig Jameson, University of Oregon; publications editor, Emory S. Bogardus, University of Southern California. Two vacancies on the

Advisory Council because of expiration of terms were filled by the election of Charles W. Reynolds, Stanford University, and Elon H. Moore, University of Oregon.

Invitation was extended to the Pacific Coast Branch of the American Historical Association to meet jointly with the Pacific Sociological Society and the Pacific Coast Economic Association at its next annual meeting. Upon the invitation of Pomona College delegation, Claremont was chosen as the place for the ninth annual session.

BOOK REVIEWS

Psychology and the Social Order, by J. F. Brown. New York: McGraw-Hill Book Company, Incorporated, 1936, 468 pages.

Since the publication of Ross's *Social Psychology* a third of a century ago, the notion of the subject, the field it covers, and the function it serves have undergone radical changes. These changes have followed the development of the psychological science on the one hand and the development of sociology on the other. The science has lived through the period when the explanation of behavior was made on the basis of the instinct hypothesis down to the recent period in which the instinct theory has lost cast and either subordinated in the explanation of behavior or neglected altogether.

With the exit of the instinct theory, writers and students turned their attention to methodology and have been concerned more with the development of techniques for the study of behavior than with the explanation of behavior itself. The author of this book reverts to the former emphasis and seeks to explain behavior, but seeks to do so by the use of the research of the field of psychology, sociology, and the related social sciences of recent years. The author attempts with reasonable success to utilize the researches in the explanation of the problems of government, politics, economics, and the like. The new departure will no doubt influence future emphasis in the field of social psychology.

The Study of Man, by Ralph Linton. New York: D. Appleton-Century Company, 1936, 503 pages.

Coming from one of America's ranking anthropologists this attempt to survey and interpret the general nature of society on the basis of materials from primitive and civilized societies is to be hailed as an event. It marks the beginning of a bolder anthropology than we have had since the destruction of the evolutionists. In content the book proceeds from a lucid presentation of the facts of human origins, race, and the nature of the biological materials with which societies work to an analysis of the forms of social grouping: in this section the chapters on marriage and the family possess keen and unique qualities. The last third of the book is devoted to problems more anthropological: culture and culture interpretation. The discussion of interests is the high point of the book, that of the state the

weakest. Teachers of sociology will find *The Study of Man* an important addition to the textbook field, though some will wish that the author had included footnote references.

The Geographic Pattern of Mankind, by JOHN E. POMFRET; KIRTLEY F. MATHER, Editor. Student's Edition. The Century Earth Science Series. New York: D. Appleton-Century Company, 1935, 442 pages.

The title is a clear indication of the plan of this textbook which is designed to serve as an introduction to the social sciences. It emphasizes the patterns resulting from the interaction between man's natural or physical environment and his social environment. The author's concern as a geographer is with location, topography, soils, and minerals as the "fixed" elements in this natural environment, with temperature, pressure, winds, humidity, and precipitation playing the role of variables and so giving rise to certain "climatic types." This is the angle from which he presents the various cultures, recognizing, however, the dominance of "Euramerican culture with its nuclei in Western Europe and the United States."

Current Social Problems, by WILLIAM WITHERS, AGNES SNYDER, AND CARLTON QUALEY. New York: Prentice-Hall, Incorporated, 1936, 299 pages.

The significant movement in American education of the present is toward a closer connection between the school and the community. The fundamental need in affecting this closer connection is a thorough understanding on the part of school people of the social forces operating in the community, and a knowledge of the relationship between these forces and the attitudes and behavior of individuals composing the community. Several treatises and researches have approached this problem, but not until recently have attempts been made to provide classroom teachers with materials that would provide them with the necessary understanding of the problems of modern life. The educational profession is indebted to Dr. Withers for organizing these data for teachers and giving them an intelligent interpretation. We are, therefore, indebted to him for the contribution of an indispensable textbook for the normal-school and teachers-college field. The teachers help, in the form of questions, bibliography, etc., makes this text one of the best available.

Occupational Mobility in an American Community, by PERCY ERWIN DAVIDSON AND H. DEWEY ANDERSON. Stanford University, California: Stanford University Press, 1937, 203 pages.

This study of occupational mobility of seven per cent of the population of the San Jose Valley of California attempts to examine the social and economic forces at work in an American community. The data were secured from educational, vocational, racial, and religious group members in the community.

The study shows the role of many of our American institutions in meeting the problems of youth. Despite the heralded equality of opportunity in our democracy and the enormous educational programs, the youth for the most part inherit the vocational status of their fathers. In all classes except the professional group, the youth still must go through what the authors call "the floundering period" of vocational maladjustment. The book deserves close examination by every vocational guidance director, and every student of social forces.

Newspapers and the News, by SUSAN M. KINGSBURY, HORNELL HART, AND ASSOCIATES. New York: G. P. Putnam's Sons, 1937, 233 pages.

The American public has been fully conscious of the importance of a free Press and has safeguarded it jealously because of its awareness that the press is one of the most important of all the agencies of public opinion in a democracy. As goes the Press so goes democracy. In spite of its supreme responsibility for public opinion and welfare the Press has not on the whole been sensitive to its obligations and there has been a growing feeling that it distorts the news and that it seeks and portrays the sensational. While the feeling of distrust has been growing we have had no study that would guide us in the extent of newspaper reliability and fairness in the presentation of material as basic to the formation of adequate judgments on public questions.

This volume, however, provides us with just such a study. It presents an objective examination of the American Press and provides measures for determining its reliability, bias, and other factors necessary for its appraisal. Its dedicatory note indicates not only its purpose, but its particular service to the educator who regards the press as a vital source of educational material. It is in part as follows: ". . . to all who have en-

listed, and will enlist, to work throughout this country in the colleges and elsewhere for this greatest of causes, the building of a model Press."

The Social Functions of Education, by ROBERT M. BEAR. New York: The Macmillan Company, 1937, 434 pages.

This text in educational sociology is designed to help the reader achieve a social point of view in education. The first part of the book examines education in the light of the cultural milieu of the person. The second division deals with social problems of contemporary life as they relate to the school and other institutions of the student's world. The last division attempts to focus the attention on the school as an agency of social control and social progress.

Though the author achieves a synthesis rarely found in a book of this kind, one cannot help but wish that more attention had been given to juvenile delinquency as it relates to the school. In as much as two chapters are given to the school and its relation to the community, one would expect that the more recent trend of community coördination would have been included. The book is well documented, and should serve a useful purpose as a text in introductory sociology, and prove profitable reading for any one whose interest is in interpreting education from the sociological point of view.

The Teacher and Society, by WILLIAM H. KILPATRICK, Professor of Education, Teachers College, Columbia University; JOHN DEWEY, Professor Emeritus of Philosophy, Columbia University; GEORGE W. HARTMANN, Associate Professor of Education, Teachers College, Columbia University; ERNEST O. MELBY, Dean of the School of Education, Northwestern University; JESSE H. NEWLON, Professor of Education, Columbia University; GEORGE D. STODDARD, Dean of the Graduate College, University of Iowa; HILDA TABA, Assistant Professor of Education, Ohio State University; GOODWIN WATSON, Professor of Education, Teachers College, Columbia University; and LAURA ZIRBES, Professor of Education, Ohio State University. New York: D. Appleton-Century Company, vii + 360 pages.

This is one of the most challenging presentations of the relation of the

teacher to society that has thus far appeared. Prepared by a group whose names are well known for their liberal point of view, the various authors have made a comprehensive analysis of the present "middle-of-the-road" position of the average teacher, the conservatism of the typical textbook, and the needed changes in the preparation of teachers.

The Establishment of an Adult School, by J. KEITH TORBERT. New York: The Macmillan Company, 1936, 218 pages.

The subtitle is an apt description of the content, "A manual of suggestions based on experiences and experiments in Maplewood, New Jersey." It does not, however, do justice to the importance of the material included. While the material is drawn wholly from the Maplewood experience, it is written in a manner to be of specific assistance and genuine inspiration to any one interested in establishing or carrying on the work in adult education in any community.

It includes such practical problems as the introductory meeting, selection of the faculty, determination of the curriculum, financing the program, entertainment, and publicity. Although recognizing that conditions in local communities may make modification desirable, the author believes that in most communities the public school is the most logical agency for initiating the program and enlisting the coöperation of all other agencies.

With the growing interest in community planning and the increased recognition of the necessity of adequate provision for adult education, this little book is both timely and extremely significant.

The Teacher and the Curriculum, by JOHN P. WYNNE. New York: Prentice-Hall, Incorporated, 1937, 435 pages.

In the current period of educational discussions and the reconstruction of our programs of education, nothing has undergone greater change than the conception of the school curriculum. The change has manifested itself not only in the subject matter included, but also and to a much greater extent in the fundamental meaning of the term. Until the twentieth century the notion of the curriculum remained essentially fixed and meant a definite number of academic subjects that were to be memorized in school and recited upon for the teacher, with the knowledge gained in the process tested in a final examination at the end of the

school term. The curriculum, therefore, consisted of academic subjects, and education meant the acquisition of academic knowledge.

The present conception of the curriculum is wholly different from the naïve notions of the nineteenth century and, therefore, requires that the teacher understand the aims of education, the principles underlying the process of learning, the background of the child, and the principles of child guidance. This book will make the teacher intelligent about the whole educational process and, therefore, is an indispensable part of a teacher's library.

Practical Sociology, by LESLIE DAY ZELAENY. New York: Prentice-Hall, Incorporated, 461 pages.

A textbook as interesting as a novel! Despite the author's statement of purpose, the social theorist and the social scientist will unfortunately criticize it—the former for its inductive approach, the latter for its use of everyday occurrence rather than scientific experimentation. But students will welcome it—and certainly their evaluation is important, even more so than that of the theorist.

Planned as a first book in sociology, it is written in a style which should make it a very valuable text in the increasing number of high-school courses offered in this field during the senior year of high school, as well as with freshmen in teachers colleges, junior colleges, and universities. While utilizing the terminology of sociology and developing the general principles, their use and description are drawn from carefully selected but homely occurrences familiar to each student. The outline, questions, activities, and projects all contribute to make this truly a "practical sociology"—practical not in the more technical sense but in the integration of sociological principles with the student's daily life and living.